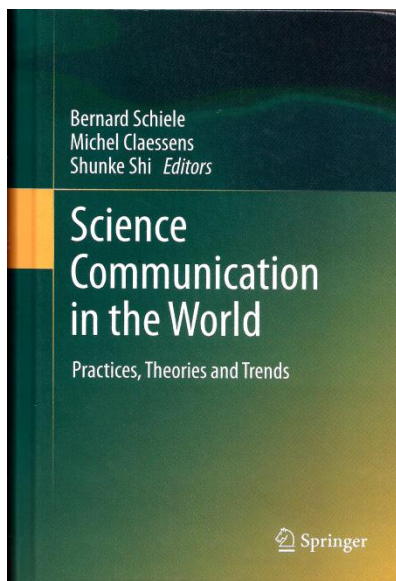


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## BOOK REVIEW

### **Science Communication in the World — Practices, Theories and Trends**, Bernard Schiele, Michel Claessens, Shunke Shi (Eds), Springer (2012).



We live in a world where nearly every aspect of our lives is infused with science and technology. Science and technology provides us the solutions to fight illness, pollution and hunger, besides providing better communication and transportation. However, despite the proven achievements of science and technology and future potentials, the public's faith in science has been declining for years. Enrolment in science courses has remained

stagnant or has been declining for the past several years.

One of the factors responsible for this state of affairs is the way science is practiced. As an institution it has failed to keep pace with the needs and expectations of society to do a better job of communicating. Science communication generally refers to public communication of science and technology (PCST), presenting science-related topics to non-experts. This often involves professional scientists, but has also evolved into a professional field in its own right. PCST includes science

exhibitions, science museums, journalism, or media production. Science communication can be highly effective at generating support for scientific research or study, or to inform decision making, including political and ethical thinking.

Part of the reason for the general apathy towards PCST is the almost complete lack of any organized effort aimed at improving the overall communication culture in science, although there has been substantial progress in many countries including India. In many countries the problem has been one of funding — a lack of general acceptance among the foundations and agencies who fund science that better communication is something that needs funding. There is increasing emphasis on explaining methods rather than simply findings of science. This may be especially critical in addressing scientific misinformation, which spreads easily because it is not subject to the constraints of the scientific method.

The title under review offers a comprehensive account of the development of PCST in five continents — the countries included are Australia, Canada, China, Denmark, France, Germany, India, Korea, South Africa, and Spain. It covers a broad canvas related to different facets of science communication and features special chapters on the teaching of science communication in universities, the promotion of science culture in the EU, and the measurement of science culture.

As the editors point out in the Introduction, beginning from the 1960s, PCST underwent an expansion that ultimately led to its predominant place in the public sphere. According to them this development occurred along two axes. The first was the more diversified practices of public awareness, promotion and communication and the second was in the field of theoretical developments. The overall effect was a general increase in public awareness of the importance of science and technology in society and its role in economic, social and cultural change.

Up to the latter half of the 1960s, it was the science communicators and science journalists who were involved with theoretical studies and proposed models to describe, explain and

justify their practices. It was commonly believed that science created its own mystic by forging a wide gap between scientists and the general public and science communicators took up the responsibility of bridging the gap by demystifying science. However, as a European Commission report on science communication (2009) said, 'it is important to understand that disseminating science in a way that is useful and valuable both for science and for society continues to be a challenge, because the deficit model that underlies the public understanding of science is still strongly rooted among (some) scientists, political leaders and media. The solution lies not in providing more information about science, but in more effective communication and dialogue'.

Since 1989 there has been a new development in the form of specialized publications, university courses, and creation of teaching positions in science communication, leading to growing professionalisation of these activities. However, despite the growing number of projects in the field, until now there has been no global overview of the spread of these efforts or their theoretical scope, according to the editors, 'largely due to the nature of the research work, which often polarised on national priorities, and due to the dispersion of the research teams, which formed around those priorities and focussed on ad hoc demands'. 'The precise goal of this volume,' say the editors, 'is to overcome that deficiency by providing an overview of the development of the theoretical field of PCST beginning from the 1960s, when it was first forming, up to the present day.' The volume is described first and foremost as a 'theoretical report'.

The book has a three-fold objective: To present a survey of research conducted in the field of PCST over the past four decades, in a range of countries; to identify and focus on the researchers' varying methods and perspectives; and establish the trends implicit in these efforts. The 20 chapters of the book are grouped into two parts. The 14 chapters in Part I deal with 'National Overviews' and last six chapters in Part II discuss 'Horizontal Issues'.

The chapters in the volume, written by eminent people engaged in science communication in different countries, provide a kaleidoscope of sorts of the varied levels of activities in the field of PCST in different countries around the world — both developed and developing ones, bringing out different approaches to the issue. It makes interesting reading to learn about the different priorities and methodologies adopted in different countries for effective dissemination of science and technology and also for theoretical studies. In some chapters we find emphasis on the tension between academic research, involvement in cultural production and involvement in the market for communication devices and expertise, while others talk about increasing public engagement in science by emphasizing social responsibility and citizen participation in the development of scientific and technological policies.

There is a chapter that gives a historical account of turning points marking the ever-changing relationship between modern science and the public at large in India. The chapter takes a look at the different phases through which science communication activities in the country had to go through and gives an account of the past 30 years of research experience in the Indian context and discusses the cultural distance model for analysing public understanding of science. It also discusses the efficacy and limitations of empirical methods of measuring cultural distance. It also talks about a few non-governmental organisations (NGOs) like the *Kerala Sastra Sahitya Parishad* (KSSP), which took up science popularization activities in right earnest as early as in 1962 and started publishing popular science books and magazines, running science clubs and organizing public lectures throughout the state of Kerala. KSSP was also the first to launch a '*science jatha*' or science procession in the city of Ernakulam in 1970. *Jathas* subsequently became an integral part of KSSP's yearly activities.

China appears to have had a long tradition of science popularization. Two chapters in the book bring this out clearly. One chapter briefly reviews the scenarios of public science

popularization in China over a period of 60 years in different cultural contexts and traces the development of science popularization studies at the theoretical level, and finally summarises the basic characteristics of science popularization studies in China. The other chapter explores science popularization from a policy perspective, based on analysis of some 100 policy documents on the subject.

In a chapter on science museums the author examines the role of science museums and their contribution to the public communication of science and technology in Spain and arrives at the conclusion that the proliferation of museums and science centres has been one of the most significant elements in the advance of the public communication of science in his country. But he says, 'Their existence is not simply a response to the desire for scientific communication, as the museums are not merely places for the transmission of scientific knowledge, or places where science is consumed. They are also scenarios and symbols, institutions used to construct new discourses of an identity based on the idea of modernity and are used politically to locate the local, regional and national in a globalised context'.

The chapter by a Korean author makes interesting reading. She refers to 'two serious social issues relating to S&T' that occurred in 2002, when 'the youth did not want to study science, technology, engineering and mathematics at college level, and scientists had lost their eagerness to do future research'. After many heated debates and serious discussions it was decided to start the 'Science Korea Movement' to enhance public awareness of the importance of S&T. Ten projects were proposed, of which the 'Space-sharing Project' — to publish a newspaper science section once a week — was the most successful. According to the author, during the 18 months of the Project, the science section attracted great attention not only from scientific communities but also Korean society at large. The Space-sharing Project was unique in that it was strongly government-driven and was based on the social consensus among the Korean people.

This volume represents the result of several years' research collaboration in the field of public communication of science and technology, presented and discussed from a global viewpoint and would be of interest to all those who wonder about the mechanisms and effects of the disclosure of knowledge. It will be useful to anyone involved in science communication, including researchers, academics, students, journalists, science museum staff, scientists, and information officers in scientific institutions, irrespective of whether they have a professional interest in understanding these processes generally, or they wish to conduct targeted investigations in the PCST field.

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